

Rate Table Quest

Find the amount for one, then build a pattern table.

GRADE 6 • 6.PFA.2.d

6.PFA.2.d "When given a contextual situation representing a proportional relationship, find the unit rate and create a table of values or a graph."

NAME _____

DATE _____

FIND THE UNIT RATE

In a proportional relationship, each group has the same amount. Divide the total amount by the number of groups to find the unit rate. Then multiply the unit rate by each input to fill a table.

WORKED EXAMPLE

A printer makes 34 flyers in 2 minutes. Find the unit rate. Complete a table for 6 and 8 minutes.

1. $34 / 2 = 17$ flyers per minute.
2. $17 \times 6 = 102$ flyers.
3. $17 \times 8 = 136$ flyers.

Answer: Unit rate: 17 flyers per minute.
Table: 6 minutes -> 102 flyers; 8 minutes -> 136 flyers.

PRACTICE 6 problems

- 1** A club collects 45 cans in 5 days at a steady rate. Find the unit rate. Complete this table:
 Days: 3, 4. Cans: __, __.

ANSWER _____

- 2** A student makes 63 badges in 9 hours at a steady rate. Find the unit rate. Complete this table: Hours: 4, 10. Badges: __, __.

ANSWER _____

- 3** A runner travels 77 meters in 11 seconds at a steady rate. Find the unit rate. Complete this table: Seconds: 3, 5. Meters: __, __.

ANSWER _____

- 4** A DJ adds 108 songs to playlists during 12 sessions, with the same number added each session. Find the unit rate. Complete this table: Sessions: 4, 10. Songs: __, __.

ANSWER _____

- 5** An arcade charges \$65 for 13 game entries. Find the unit rate. Complete this table:
 Entries: 3, 9. Cost: \$__, \$__.

ANSWER _____

- 6** A gardening club plants 99 seeds in 11 equal rows. Find the unit rate. Complete this table: Rows: 4, 10. Seeds: __, __.

ANSWER _____

APPLY IT Show your work

- 1** During a gaming tournament, a team earns 63 points in 9 rounds at a constant rate. Find the unit rate. Make a table for 4, 12, and 15 rounds. How many points will the team earn in 15 rounds?

WORK SPACE

ANSWER _____

- 2** A music app charges \$48 for 12 song downloads at the same price per download. Find the unit rate. Make a table for 5 and 15 downloads. What is the cost of 15 downloads?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A school store sells 4 notebooks for \$28. Find the unit rate. Make a table for 3, 9, and 15 notebooks. A student says that 10 notebooks should cost \$70. Is the student correct? Explain using the unit rate.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A club collects 45 cans in 5 days at a steady rate. Find the unit rate. Complete this table: Days: 3, 4. Cans: __, __.	Unit rate: 9 cans per day. Table: 3 days -> 27 cans; 4 days -> 36 cans.
2	A student makes 63 badges in 9 hours at a steady rate. Find the unit rate. Complete this table: Hours: 4, 10. Badges: __, __.	Unit rate: 7 badges per hour. Table: 4 hours -> 28 badges; 10 hours -> 70 badges.
3	A runner travels 77 meters in 11 seconds at a steady rate. Find the unit rate. Complete this table: Seconds: 3, 5. Meters: __, __.	Unit rate: 7 meters per second. Table: 3 seconds -> 21 meters; 5 seconds -> 35 meters.
4	A DJ adds 108 songs to playlists during 12 sessions, with the same number added each session. Find the unit rate. Complete this table: Sessions: 4, 10. Songs: __, __.	Unit rate: 9 songs per session. Table: 4 sessions -> 36 songs; 10 sessions -> 90 songs.
5	An arcade charges \$65 for 13 game entries. Find the unit rate. Complete this table: Entries: 3, 9. Cost: \$__, \$__.	Unit rate: \$5 per entry. Table: 3 entries -> \$15; 9 entries -> \$45.
6	A gardening club plants 99 seeds in 11 equal rows. Find the unit rate. Complete this table: Rows: 4, 10. Seeds: __, __.	Unit rate: 9 seeds per row. Table: 4 rows -> 36 seeds; 10 rows -> 90 seeds.

PART 2 • APPLY IT

- Unit rate: 7 points per round. Table: 4 rounds -> 28 points; 12 rounds -> 84 points; 15 rounds -> 105 points. The team will earn 105 points in 15 rounds.** Divide 63 by 9 to get 7 points per round. Multiply 7 by each number of rounds to complete the table.
- Unit rate: \$4 per download. Table: 5 downloads -> \$20; 15 downloads -> \$60. The cost of 15 downloads is \$60.** Divide \$48 by 12 to get \$4 per download. Multiply \$4 by 5 and by 15 to fill the table.

CHALLENGE

Unit rate: \$7 per notebook. Table: 3 notebooks -> \$21; 9 notebooks -> \$63; 15 notebooks -> \$105. Yes. At \$7 per notebook, 10 notebooks cost $10 \times \$7 = \70 .

Accept equivalent table layouts if each input is matched with the correct output and units. Accept a correct proportional graph in place of a table when the unit rate and plotted values are accurate.